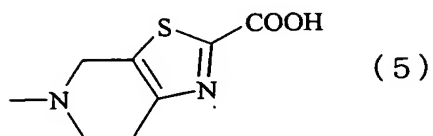


# CLAIMS

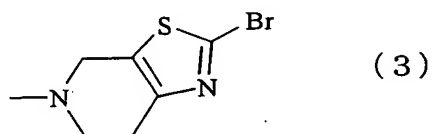
1. A process for producing a compound of formula (5) or a salt thereof:

5 [F3]



wherein the process is characterized by comprising reacting a compound of formula (3) or a salt thereof:

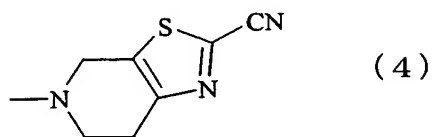
[F1]



10

with a metal cyanide, to thereby obtain a compound of formula (4) or a salt thereof:

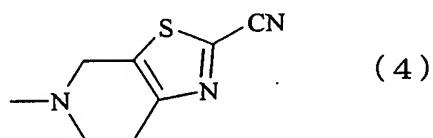
[F2]



15 and hydrolyzing the obtained compound or a salt thereof.

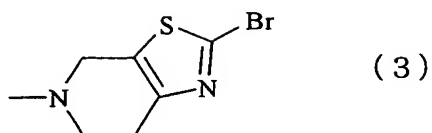
2. A process for producing a compound of formula (4) or a salt thereof:

[F5]



wherein the process is characterized by comprising reacting a compound of formula (3) or a salt thereof:

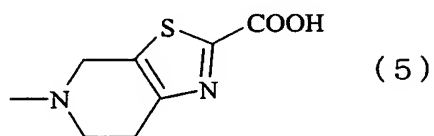
[F4]



5 with a metal cyanide.

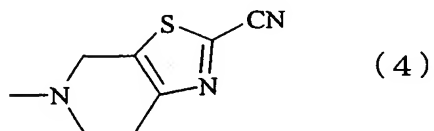
3. A process for producing a compound of formula (5) or a salt thereof:

[F7]



10 wherein the process is characterized by comprising hydrolyzing a compound of formula (4) or a salt thereof.

[F6]



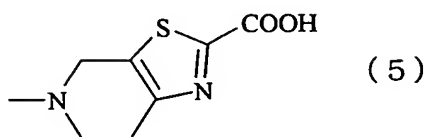
4. The process according to claim 1 or 2, wherein the  
15 metal cyanide is a mixture of sodium cyanide and copper cyanide.

5. The process according to claim 1 or 3, wherein the hydrolysis is performed through treatment with an aqueous solution of an alkali metal hydroxide.

20 6. The process according to claim 5, wherein the alkali metal hydroxide is lithium hydroxide.

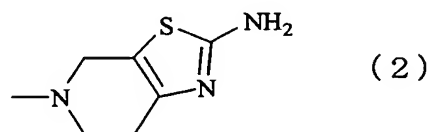
7. A process for producing a compound of formula (5) or a salt thereof:

[F10]



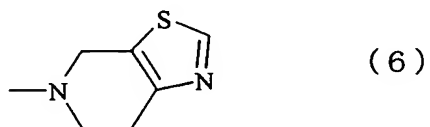
5 wherein the process is characterized by comprising reacting a compound of formula (2) or a salt thereof:

[F8]



with an alkali metal nitrite in the presence of a reducing agent in an aqueous solution of an acidic compound, to thereby obtain a compound of formula (6) or a salt thereof:

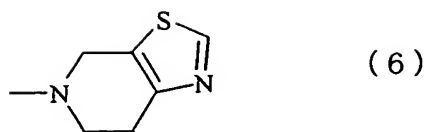
[F9]



and reacting the obtained compound or a salt thereof with trihalogenoacetyl halide in the presence of a base, followed by hydrolysis.

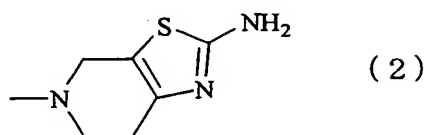
8. A process for producing a compound of formula (6) or a salt thereof:

[F12]



wherein the process is characterized by comprising reacting a compound of formula (2) or a salt thereof:

[F11]

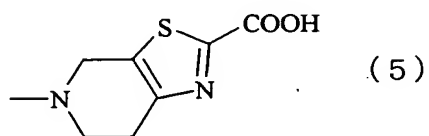


5

with an alkali metal nitrite in the presence of a reducing agent in an aqueous solution of an acidic compound.

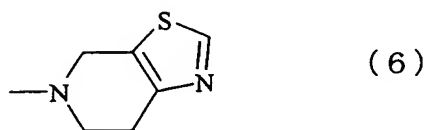
9. A process for producing a compound of formula (5) or a salt thereof:

10 [F14]



wherein the process is characterized by comprising reacting a compound of formula (6) or a salt thereof:

[F13]



15

with trihalogenoacetyl halide in the presence of a base, followed by hydrolysis.

10. The process according to claim 7 or 8, wherein the reducing agent is hypophosphorous acid.

11. The process according to claim 7 or 8, wherein the alkali metal nitrite is sodium nitrite.

12. The process according to claim 7 or 9, wherein the base is a tertiary amine.

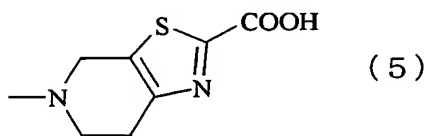
5 13. The process according to claim 7 or 9, wherein trihalogenoacetyl halide is trichloroacetyl chloride.

14. The process according to claim 7 or 9, wherein the hydrolysis is performed through treatment with an aqueous solution of an alkali metal hydroxide.

10 15. The process according to claim 14, wherein the alkali metal hydroxide is lithium hydroxide.

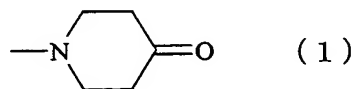
16. A process for producing a compound of formula (5) or a salt thereof:

[F18]



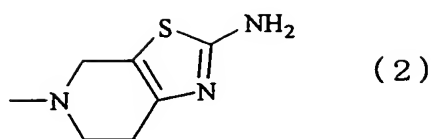
wherein the process is characterized by comprising reacting a compound of formula (1) or a salt thereof:

[F15]



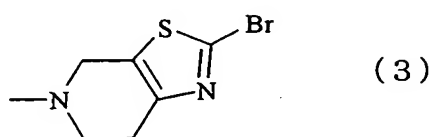
with sulfur powder and cyanamide in the presence of a secondary amine, to thereby obtain a compound of formula (2) or a salt thereof:

[F16]



and reacting the obtained compound or a salt thereof  
hydrobromic acid and alkali metal nitrite, to thereby obtain  
a compound of formula (3) or a salt thereof:

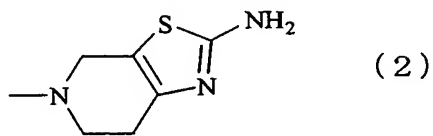
5 [F17]



and reacting the obtained compound or a salt thereof with  
alkyllithium and carbon dioxide.

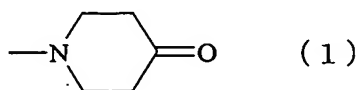
17. A process for producing a compound of formula (2)  
10 or a salt thereof:

[F20]



wherein the process is characterized by comprising reacting a  
compound of formula (1) or a salt thereof:

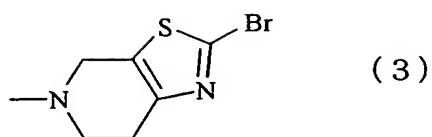
15 [F19]



with sulfur powder and cyanamide in the presence of a  
secondary amine.

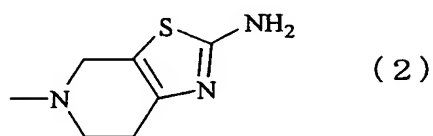
18. A process for producing a compound of formula (3)  
20 or a salt thereof:

[F22]



wherein the process is characterized by comprising reacting a compound of formula (2) or a salt thereof:

5 [F21]



with hydrobromic acid and an alkali metal nitrite.

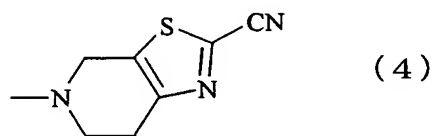
19. The process according to claim 16, wherein alkyl lithium is n-butyl lithium.

10 20. The process according to claim 16 or 17, wherein the secondary amine is pyrrolidine.

21. The process according to claim 16 or 17, wherein the alkali metal nitrite is sodium nitrite.

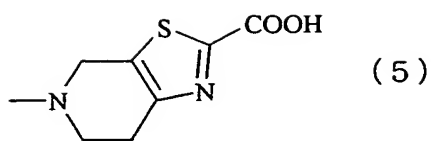
15 22. A salt formed between an acidic compound and a compound of formula (4).

[F23]



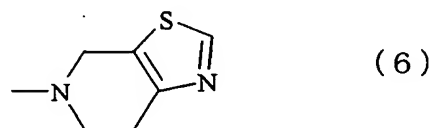
23. A salt formed between an acidic compound and a compound of formula (5).

20 [F24]



24. A salt formed between an acidic compound and a compound of formula (6).

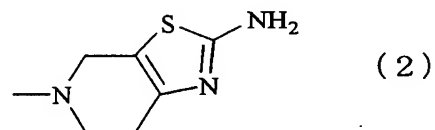
[F25]



5

25. A salt formed between an acidic compound and a compound of formula (2).

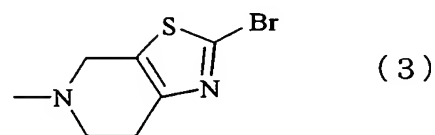
[F26]



10

26. A salt formed between an acidic compound and a compound of formula (3).

[F27]



27. The salt according to claim 22 or 23, wherein the acidic compound is hydrochloric acid.

28. The salt according to claim 24 or 26, wherein the acidic compound is p-toluenesulfonic acid.

29. The salt according to claim 25, wherein the acidic compound is hydrobromic acid.





N-alkenylcarbamoylalkyl, N-alkenyl-N-alkylcarbamoyl, N-  
 alkenyl-N-alkylcarbamoylalkyl, N-alkoxycarbamoyl, N-alkyl-N-  
 alkoxycarbamoyl, N-alkoxycarbamoylalkyl, N-alkyl-N-  
 alkoxycarbamoylalkyl, carbazoyl which may be substituted by 1  
 5 to 3 alkyl groups, alkylsulfonyl, alkylsulfonylalkyl, 3- to  
 6-membered heterocyclic carbonyl which may have a substituent,  
 carbamoylalkyl, N-alkylcarbamoylalkyl whose alkyl may or may  
 not be substituted, N,N-dialkylcarbamoylalkyl whose alkyl may  
 or may not be substituted, carbamoyloxyalkyl, N-  
 10 alkylcarbamoyloxyalkyl, N,N-dialkylcarbamoyloxyalkyl, 3- to  
 6-membered heterocyclic carbonylalkyl which may have a  
 substituent, 3- to 6-membered heterocyclic carbonyloxyalkyl  
 which may have a substituent, aryl, aralkyl, 3- to 6-membered  
 heterocyclic group which may have a substituent, 3- to 6-  
 15 membered heterocyclic alkyl which may have a substituent,  
 alkylsulfonylamino, arylsulfonylamino,  
 alkylsulfonylaminoalkyl, arylsulfonylaminoalkyl,  
 alkylsulfonylaminocarbonyl, arylsulfonylaminocarbonyl,  
 alkylsulfonylaminocarbonylalkyl,  
 20 arylsulfonylaminocarbonylalkyl, oxo, carbamoyloxy, aralkyloxy,  
 carboxyalkyloxy, alkoxycarbonylalkyloxy, acyloxy,  
 acyloxyalkyl, arylsulfonyl, alkoxycarbonylalkylsulfonyl,  
 carboxyalkylsulfonyl, alkoxycarbonylacyl,  
 alkoxylalkyloxycarbonyl, hydroxyacyl, alkoxylacyl, halogenoacyl,  
 25 carboxylacyl, aminoacyl, acyloxyacyl, acyloxyalkylsulfonyl,  
 hydroxyalkylsulfonyl, alkoxylalkylsulfonyl, 3- to 6-membered  
 heterocyclic sulfonyl which may have a substituent, 3- to 6-

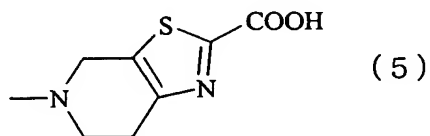
membered heterocyclic oxy which may have a substituent, N-alkylaminoacyl, N,N-dialkylaminoacyl, N,N-dialkylcarbamoylacyl whose alkyl may or may not be substituted, N,N-dialkylcarbamoylalkylsulfonyl whose alkyl may or may not be substituted, alkylsulfonylacyl, N-arylcarbamoyl, N-3- to 6-membered heterocyclic carbamoyl, N-alkyl-N-arylcarbamoyl, N-alkyl-N-3- to 6-membered heterocyclic carbamoyl, N-arylcarbamoylalkyl, N-3- to 6-membered heterocyclic carbamoylalkyl, N-alkyl-N-arylcarbamoylalkyl, N-alkyl-N-3- to 6-membered heterocyclic carbamoylalkyl, aminocarbothioyl, N-alkylaminocarbothioyl, N,N-dialkylaminocarbothioyl, alkoxyalkyl(thiocarbonyl), alkylthioalkyl, or N-acyl-N-alkylaminoalkyl; when R<sup>3</sup> and R<sup>4</sup> are linked together to form a group, the group represents C1-C5 alkylene, C2-C5 alkenylene, C1-C5 alkylenedioxy, or carbonyldioxy;

Q<sup>2</sup> represents aryl which may have a substituent, arylalkenyl which may have a substituent, arylalkynyl which may have a substituent, heteroaryl which may have a substituent, heteroarylalkenyl which may have a substituent, a saturated or unsaturated bicyclic or tricyclic condensed hydrocarbon group which may have a substituent, or a saturated or unsaturated bicyclic or tricyclic condensed heterocyclic group which may have a substituent;

T<sup>1</sup> represents carbonyl, sulfonyl, -C(=O)-C(=O)-N(R')-, -C(=S)-C(=O)-N(R')-, -C(=O)-C(=S)-N(R')-, -C(=S)-C(=S)-N(R')- (wherein R' represents a hydrogen atom, hydroxyl, alkyl, or

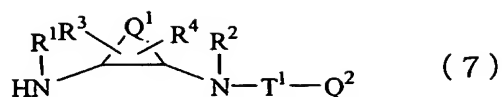
alkoxy),  $-C(=O)-A^1-N(R'')$  (wherein  $A^1$  represents an C1-C5  
 alkylene which may have a substituent and  $R''$  represents a  
 hydrogen atom, hydroxyl, alkyl, or alkoxy),  $-C(=O)-NH-$ ,  $-$   
 $C(=S)-NH-$ ,  $-C(=O)-NH-NH-$ ,  $-C(=O)-A^2-C(=O)-$  (wherein  $A^2$   
 5 represents a single bond or C1-C5 alkylene),  $-C(=O)-A^3-C(=O)-$   
 $NH-$  (wherein  $A^3$  represents C1-C5 alkylene),  $-C(=O)-C(=NOR^a)-$   
 $N(R^b)-$ ,  $-C(=S)-C(=NOR^a)-N(R^b)-$  (wherein  $R^a$  represents a  
 hydrogen atom, alkyl, or alkanoyl and  $R^b$  represents a  
 hydrogen atom, hydroxyl, alkyl, or alkoxy),  $-C(=O)-N=N-$ ,  $-$   
 10  $C(=S)-N=N-$ ,  $-C(=NOR^c)-C(=O)-N(R^d)-$  (wherein  $R^c$  represents a  
 hydrogen atom, alkyl, alkanoyl, aryl, or aralkyl and  $R^d$   
 represents a hydrogen atom, hydroxyl, alkyl, or alkoxy),  $-$   
 $C(=N-N(R^e)(R^f))-C(=O)-N(R^g)-$  (wherein, each of  $R^e$  and  $R^f$   
 represents a hydrogen atom, alkyl, alkanoyl, or  
 15 alkyl(thiocarbonyl) and  $R^g$  represents a hydrogen atom,  
 hydroxyl, alkyl, or alkoxy),  $-C(=O)-NH-C(=O)-$ ,  $-C(=S)-NH-$   
 $C(=O)-$ ,  $-C(=O)-NH-C(=S)-$ ,  $-C(=S)-NHC(=S)-$ ,  $-C(=O)-NH-SO_2-$ ,  $-$   
 $SO_2-NH-$ ,  $-C(=NCN)-NH-C(=O)-$ ,  $-C(=S)-C(=O)-$ , or thiocarbonyl),  
 wherein the process is characterized by comprising reacting a  
 20 compound which is represented by formula (5) and which is  
 produced through a process according to claim 1, 3, 7, 9, or  
 16 or a salt thereof:

[F28]



25 with diamines of formula (7) or a salt thereof:

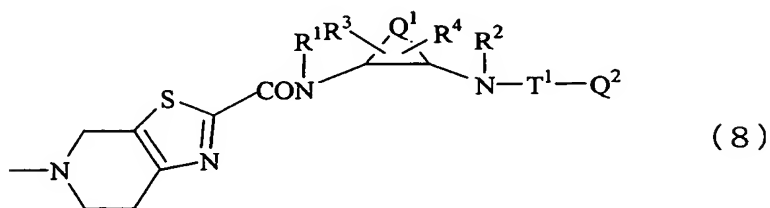
[F29]



(wherein  $\text{R}^1$ ,  $\text{R}^2$ ,  $\text{R}^3$ ,  $\text{R}^4$ ,  $\text{T}^1$ ,  $\text{Q}^1$ , and  $\text{Q}^2$  have the same meanings as described above).

- 5            31. A process for producing a compound of formula (8) or a salt thereof:

[F36]



- (wherein each of  $\text{R}^1$  and  $\text{R}^2$  represents a hydrogen atom,  
 10    hydroxyl, alkyl or alkoxy;  
 $\text{Q}^1$  represents C1-C8 alkylene, C2-C8 alkenylene, or  $-(\text{CH}_2)_m-$   
 $\text{CH}_2\text{-A-CH}_2\text{-(CH}_2)_n-$  (wherein each of  $m$  and  $n$  represents 0 or an  
 integer of 1 to 3 and  $\text{A}$  represents an oxygen atom, a nitrogen  
 atom, a sulfur atom,  $-\text{SO}-$ ,  $-\text{SO}_2-$ ,  $-\text{NH}-$ ,  $-\text{O-NH}-$ ,  $-\text{NH-NH}-$ ,  $-\text{S}-$   
 15     $\text{NH}-$ ,  $-\text{SO-NH}-$ , or  $\text{SO}_2\text{-NH}-$ );  
 each of  $\text{R}^3$  and  $\text{R}^4$ , which is a substituent linked to a carbon  
 atom, a nitrogen atom, or a sulfur atom forming the  $\text{Q}^1$ -  
 containing ring, represents a hydrogen atom, hydroxyl, alkyl,  
 alkenyl, alkynyl, a halogen atom, halogenoalkyl, cyano,  
 20    cyanoalkyl, amino, aminoalkyl, N-alkylaminoalkyl, N,N-  
 dialkylaminoalkyl, acyl, acylalkyl, acylamino which may have  
 a substituent, alkoxyimino, hydroxyimino, acylaminoalkyl,  
 alkoxy, alkoxyalkyl, hydroxyalkyl, carboxyl, carboxyalkyl,

alkoxycarbonyl, alkoxycarbonylalkyl, alkoxycarbonylalkylamino,  
 carboxyalkylamino, alkoxycarbonylamino,  
 alkoxycarbonylaminoalkyl, carbamoyl, N-alkylcarbamoyl whose  
 alkyl may or may not be substituted, N,N-dialkylcarbamoyl  
 5 whose alkyl may or may not be substituted, N-alkenylcarbamoyl,  
 N-alkenylcarbamoylalkyl, N-alkenyl-N-alkylcarbamoyl, N-  
 alkenyl-N-alkylcarbamoylalkyl, N-alkoxycarbamoyl, N-alkyl-N-  
 alkoxycarbamoyl, N-alkoxycarbamoylalkyl, N-alkyl-N-  
 alkoxycarbamoylalkyl, carbazoyl which may be substituted by 1  
 10 to 3 alkyl groups, alkylsulfonyl, alkylsulfonylalkyl, 3- to  
 6-membered heterocyclic carbonyl which may have a substituent,  
 carbamoylalkyl, N-alkylcarbamoylalkyl whose alkyl may or may  
 not be substituted, N,N-dialkylcarbamoylalkyl whose alkyl may  
 or may not be substituted, carbamoyloxyalkyl, N-  
 15 alkylcarbamoyloxyalkyl, N,N-dialkylcarbamoyloxyalkyl, 3- to  
 6-membered heterocyclic carbonylalkyl which may have a  
 substituent, 3- to 6-membered heterocyclic carbonyloxyalkyl  
 which may have a substituent, aryl, aralkyl, 3- to 6-membered  
 heterocyclic group which may have a substituent, 3- to 6-  
 20 membered heterocyclic alkyl which may have a substituent,  
 alkylsulfonylamino, arylsulfonylamino,  
 alkylsulfonylaminoalkyl, arylsulfonylaminoalkyl,  
 alkylsulfonylaminocarbonyl, arylsulfonylaminocarbonyl,  
 alkylsulfonylaminocarbonylalkyl,  
 25 arylsulfonylaminocarbonylalkyl, oxo, carbamoyloxy, aralkyloxy,  
 carboxyalkyloxy, alkoxycarbonylalkyloxy, acyloxy,  
 acyloxyalkyl, arylsulfonyl, alkoxycarbonylalkylsulfonyl,

carboxyalkylsulfonyl, alkoxycarbonylacyl,  
 alkoxyalkyloxycarbonyl, hydroxyacyl, alkoxyacyl, halogenoacyl,  
 carboxyacyl, aminoacyl, acyloxyacyl, acyloxyalkylsulfonyl,  
 hydroxyalkylsulfonyl, alkoxyalkylsulfonyl, 3- to 6-membered  
 5 heterocyclic sulfonyl which may have a substituent, 3- to 6-  
 membered heterocyclic oxy which may have a substituent, N-  
 alkylaminoacyl, N,N-dialkylaminoacyl, N,N-  
 dialkylcarbamoylacyl whose alkyl may or may not be  
 substituted, N,N-dialkylcarbamoylalkylsulfonyl whose alkyl  
 10 may or may not be substituted, alkylsulfonylacyl, N-  
 arylcarbamoyl, N-3- to 6-membered heterocyclic carbamoyl, N-  
 alkyl-N-arylcarbamoyl, N-alkyl-N-3- to 6-membered  
 heterocyclic carbamoyl, N-arylcarbamoylalkyl, N-3- to 6-  
 membered heterocyclic carbamoylalkyl, N-alkyl-N-  
 15 arylcarbamoylalkyl, N-alkyl-N-3- to 6-membered heterocyclic  
 carbamoylalkyl, aminocarbothioyl, N-alkylaminocarbothioyl,  
 N,N-dialkylaminocarbothioyl, alkoxyalkyl(thiocarbonyl),  
 alkylthioalkyl, or N-acyl-N-alkylaminoalkyl; when R<sup>3</sup> and R<sup>4</sup>  
 are linked together to form a group, the group represents C1-  
 20 C5 alkylene, C2-C5 alkenylene, C1-C5 alkylenedioxy, or  
 carbonyldioxy;  
 Q<sup>2</sup> represents aryl which may have a substituent, arylalkenyl  
 which may have a substituent, arylalkynyl which may have a  
 substituent, heteroaryl which may have a substituent,  
 25 heteroarylalkenyl which may have a substituent, a saturated  
 or unsaturated bicyclic or tricyclic condensed hydrocarbon  
 group which may have a substituent, or a saturated or

unsaturated bicyclic or tricyclic condensed heterocyclic group which may have a substituent;

T<sup>1</sup> represents carbonyl, sulfonyl, -C(=O)-C(=O)-N(R')-, -C(=S)-C(=O)-N(R')-, -C(=O)-C(=S)-N(R')-, -C(=S)-C(=S)-N(R')-

5 (wherein R' represents a hydrogen atom, hydroxyl, alkyl, or alkoxy), -C(=O)-A<sup>1</sup>-N(R'')- (wherein A<sup>1</sup> represents an C1-C5 alkylene which may have a substituent and R'' represents a hydrogen atom, hydroxyl, alkyl, or alkoxy), -C(=O)-NH-, -C(=S)-NH-, -C(=O)-NH-NH-, -C(=O)-A<sup>2</sup>-C(=O)- (wherein A<sup>2</sup>

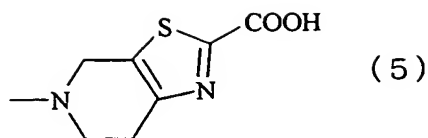
10 represents a single bond or C1-C5 alkylene), -C(=O)-A<sup>3</sup>-C(=O)-NH- (wherein A<sup>3</sup> represents C1-C5 alkylene), -C(=O)-C(=NOR<sup>a</sup>)-N(R<sup>b</sup>)-, -C(=S)-C(=NOR<sup>a</sup>)-N(R<sup>b</sup>)- (wherein R<sup>a</sup> represents a hydrogen atom, alkyl, or alkanoyl and R<sup>b</sup> represents a hydrogen atom, hydroxyl, alkyl, or alkoxy), -C(=O)-N=N-, -

15 C(=S)-N=N-, -C(=NOR<sup>c</sup>)-C(=O)-N(R<sup>d</sup>)- (wherein R<sup>c</sup> represents a hydrogen atom, alkyl, alkanoyl, aryl, or aralkyl and R<sup>d</sup> represents a hydrogen atom, hydroxyl, alkyl, or alkoxy), -C(=N-N(R<sup>e</sup>)(R<sup>f</sup>))-C(=O)-N(R<sup>g</sup>)- (wherein, each of R<sup>e</sup> and R<sup>f</sup> represents a hydrogen atom, alkyl, alkanoyl, or

20 alkyl(thiocarbonyl) and R<sup>g</sup> represents a hydrogen atom, hydroxyl, alkyl, or alkoxy), -C(=O)-NH-C(=O)-, -C(=S)-NH-C(=O)-, -C(=O)-NH-C(=S)-, -C(=S)-NHC(=S)-, -C(=O)-NH-SO<sub>2</sub>-, -SO<sub>2</sub>-NH-, -C(=NCN)-NH-C(=O)-, -C(=S)-C(=O)-, or thiocarbonyl), wherein the process is characterized by comprising reacting a  
25 compound which is represented by formula (5) and which is produced through a process according to claim 1, 3, 7, 9, or 16 or a salt thereof:

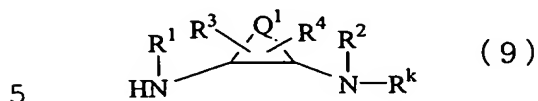


[F31]



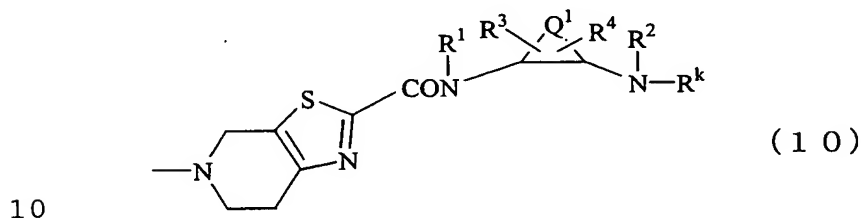
with diamines of formula (9) or a salt thereof:

[F32]



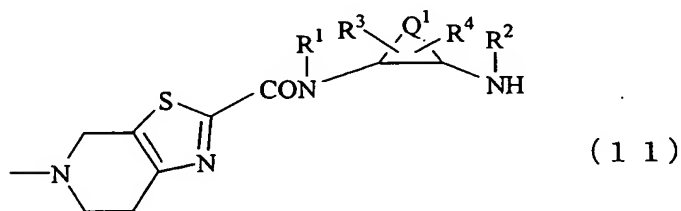
(wherein R<sup>k</sup> is an amino-group-protective group and R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup>, R<sup>4</sup>, and Q<sup>1</sup> have the same meanings as described above) to thereby obtain a compound of formula (10):

[F33]



(wherein R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup>, R<sup>4</sup>, Q<sup>1</sup>, and R<sup>k</sup> have the same meanings as described above), and removing R<sup>k</sup> from the obtained compound or a salt thereof, to thereby produce a compound of formula (11) or a salt thereof:

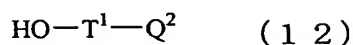
15 [F34]



(wherein R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup>, R<sup>4</sup>, and Q<sup>1</sup> have the same meanings as described above), and reacting the obtained compound or a

salt thereof with a compound of formula (12) or a salt thereof:

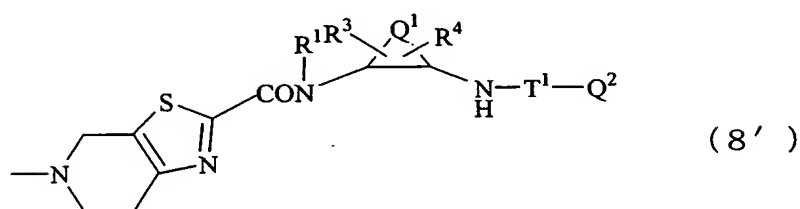
[F35]



5 (wherein  $\text{T}^1$  and  $\text{Q}^2$  have the same meanings as described above).

32. A process for producing a compound of formula (8'):

[F42]



10 (wherein  $\text{R}^1$  represents a hydrogen atom, hydroxyl, alkyl or alkoxy;

$\text{Q}^1$  represents C1-C8 alkylene, C2-C8 alkenylene, or  $-(\text{CH}_2)_m-\text{CH}_2-\text{A}-\text{CH}_2-(\text{CH}_2)_n-$  (wherein each of  $m$  and  $n$  represents 0 or an integer of 1 to 3 and  $\text{A}$  represents an oxygen atom, a nitrogen atom, a sulfur atom,  $-\text{SO}-$ ,  $-\text{SO}_2-$ ,  $-\text{NH}-$ ,  $-\text{O}-\text{NH}-$ ,  $-\text{NH}-\text{NH}-$ ,  $-\text{S}-$   
 15  $\text{NH}-$ ,  $-\text{SO}-\text{NH}-$ , or  $\text{SO}_2-\text{NH}-$ );

each of  $\text{R}^3$  and  $\text{R}^4$ , which is a substituent linked to a carbon atom, a nitrogen atom, or a sulfur atom forming the  $\text{Q}^1$ -containing ring, represents a hydrogen atom, hydroxyl, alkyl, alkenyl, alkynyl, a halogen atom, halogenoalkyl, cyano,  
 20 cyanoalkyl, amino, aminoalkyl, N-alkylaminoalkyl, N,N-dialkylaminoalkyl, acyl, acylalkyl, acylamino which may have a substituent, alkoxyimino, hydroxyimino, acylaminoalkyl, alkoxy, alkoxyalkyl, hydroxyalkyl, carboxyl, carboxyalkyl, alkoxycarbonyl, alkoxycarbonylalkyl, alkoxycarbonylalkylamino,

carboxyalkylamino, alkoxycarbonylamino,  
 alkoxycarbonylaminoalkyl, carbamoyl, N-alkylcarbamoyl whose  
 alkyl may or may not be substituted, N,N-dialkylcarbamoyl  
 whose alkyl may or may not be substituted, N-alkenylcarbamoyl,  
 5 N-alkenylcarbamoylalkyl, N-alkenyl-N-alkylcarbamoyl, N-  
 alkenyl-N-alkylcarbamoylalkyl, N-alkoxycarbamoyl, N-alkyl-N-  
 alkoxycarbamoyl, N-alkoxycarbamoylalkyl, N-alkyl-N-  
 alkoxycarbamoylalkyl, carbazoyl which may be substituted by 1  
 to 3 alkyl groups, alkylsulfonyl, alkylsulfonylalkyl, 3- to  
 10 6-membered heterocyclic carbonyl which may have a substituent,  
 carbamoylalkyl, N-alkylcarbamoylalkyl whose alkyl may or may  
 not be substituted, N,N-dialkylcarbamoylalkyl whose alkyl may  
 or may not be substituted, carbamoyloxyalkyl, N-  
 alkylcarbamoyloxyalkyl, N,N-dialkylcarbamoyloxyalkyl, 3- to  
 15 6-membered heterocyclic carbonylalkyl which may have a  
 substituent, 3- to 6-membered heterocyclic carbonyloxyalkyl  
 which may have a substituent, aryl, aralkyl, 3- to 6-membered  
 heterocyclic group which may have a substituent, 3- to 6-  
 membered heterocyclic alkyl which may have a substituent,  
 20 alkylsulfonylamino, arylsulfonylamino,  
 alkylsulfonylaminoalkyl, arylsulfonylaminoalkyl,  
 alkylsulfonylaminocarbonyl, arylsulfonylaminocarbonyl,  
 alkylsulfonylaminocarbonylalkyl,  
 arylsulfonylaminocarbonylalkyl, oxo, carbamoyloxy, aralkyloxy,  
 25 carboxyalkyloxy, alkoxycarbonylalkyloxy, acyloxy,  
 acyloxyalkyl, arylsulfonyl, alkoxycarbonylalkylsulfonyl,  
 carboxyalkylsulfonyl, alkoxycarbonylacyl,

alkoxyalkyloxycarbonyl, hydroxyacyl, alkoxyacyl, halogenoacyl,  
 carboxyacyl, aminoacyl, acyloxyacyl, acyloxyalkylsulfonyl,  
 hydroxyalkylsulfonyl, alkoxyalkylsulfonyl, 3- to 6-membered  
 heterocyclic sulfonyl which may have a substituent, 3- to 6-  
 5 membered heterocyclic oxy which may have a substituent, N-  
 alkylaminoacyl, N,N-dialkylaminoacyl, N,N-  
 dialkylcarbamoylacyl whose alkyl may or may not be  
 substituted, N,N-dialkylcarbamoylalkylsulfonyl whose alkyl  
 may or may not be substituted, alkylsulfonylacyl, N-  
 10 arylcarbamoyl, N-3- to 6-membered heterocyclic carbamoyl, N-  
 alkyl-N-arylcarbamoyl, N-alkyl-N-3- to 6-membered  
 heterocyclic carbamoyl, N-arylcarbamoylalkyl, N-3- to 6-  
 membered heterocyclic carbamoylalkyl, N-alkyl-N-  
 arylcarbamoylalkyl, N-alkyl-N-3- to 6-membered heterocyclic  
 15 carbamoylalkyl, aminocarbothioyl, N-alkylaminocarbothioyl,  
 N,N-dialkylaminocarbothioyl, alkoxyalkyl(thiocarbonyl),  
 alkylthioalkyl, or N-acyl-N-alkylaminoalkyl; when R<sup>3</sup> and R<sup>4</sup>  
 are linked together to form a group, the group represents C1-  
 C5 alkylene, C2-C5 alkenylene, C1-C5 alkylenedioxy, or  
 20 carbonyldioxy;  
 Q<sup>2</sup> represents aryl which may have a substituent, arylalkenyl  
 which may have a substituent, arylalkynyl which may have a  
 substituent, heteroaryl which may have a substituent,  
 heteroarylalkenyl which may have a substituent, a saturated  
 25 or unsaturated bicyclic or tricyclic condensed hydrocarbon  
 group which may have a substituent, or a saturated or  
 unsaturated bicyclic or tricyclic condensed heterocyclic

group which may have a substituent;

T<sup>1</sup> represents carbonyl, sulfonyl, -C(=O)-C(=O)-N(R')-, -

C(=S)-C(=O)-N(R')-, -C(=O)-C(=S)-N(R')-, -C(=S)-C(=S)-N(R')-

(wherein R' represents a hydrogen atom, hydroxyl, alkyl, or

5 alkoxy), -C(=O)-A<sup>1</sup>-N(R'')- (wherein A<sup>1</sup> represents an C1-C5

alkylene which may have a substituent and R'' represents a

hydrogen atom, hydroxyl, alkyl, or alkoxy), -C(=O)-NH-, -

C(=S)-NH-, -C(=O)-NH-NH-, -C(=O)-A<sup>2</sup>-C(=O)- (wherein A<sup>2</sup>  
represents a single bond or C1-C5 alkylene), -C(=O)-A<sup>3</sup>-C(=O)-

10 NH- (wherein A<sup>3</sup> represents C1-C5 alkylene), -C(=O)-C(=NOR<sup>a</sup>)-  
N(R<sup>b</sup>)-, -C(=S)-C(=NOR<sup>a</sup>)-N(R<sup>b</sup>)- (wherein R<sup>a</sup> represents a

hydrogen atom, alkyl, or alkanoyl and R<sup>b</sup> represents a

hydrogen atom, hydroxyl, alkyl, or alkoxy), -C(=O)-N=N-, -

C(=S)-N=N-, -C(=NOR<sup>c</sup>)-C(=O)-N(R<sup>d</sup>)- (wherein R<sup>c</sup> represents a

15 hydrogen atom, alkyl, alkanoyl, aryl, or aralkyl and R<sup>d</sup>

represents a hydrogen atom, hydroxyl, alkyl, or alkoxy), -

C(=N-N(R<sup>e</sup>)(R<sup>f</sup>))-C(=O)-N(R<sup>g</sup>)- (wherein, each of R<sup>e</sup> and R<sup>f</sup>

represents a hydrogen atom, alkyl, alkanoyl, or

alkyl(thiocarbonyl) and R<sup>g</sup> represents a hydrogen atom,

20 hydroxyl, alkyl, or alkoxy), -C(=O)-NH-C(=O)-, -C(=S)-NH-

C(=O)-, -C(=O)-NH-C(=S)-, -C(=S)-NHC(=S)-, -C(=O)-NH-SO<sub>2</sub>-, -

SO<sub>2</sub>-NH-, -C(=NCN)-NH-C(=O)-, -C(=S)-C(=O)-, or thiocarbonyl),

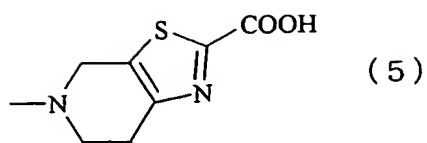
wherein the process is characterized by comprising reacting a

compound which is represented by formula (5) and which is

25 produced through a process according to claim 1, 3, 7, 9, or

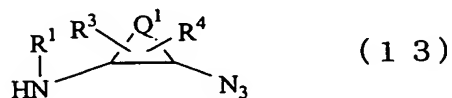
16 or a salt thereof:

[F37]



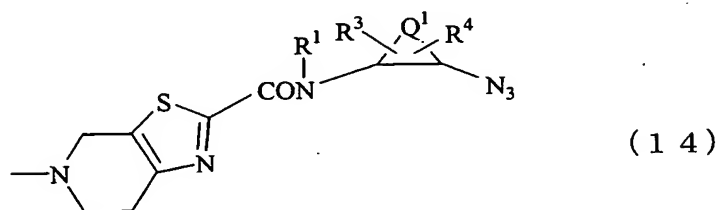
with diamines of formula (13) or a salt thereof:

[F37]



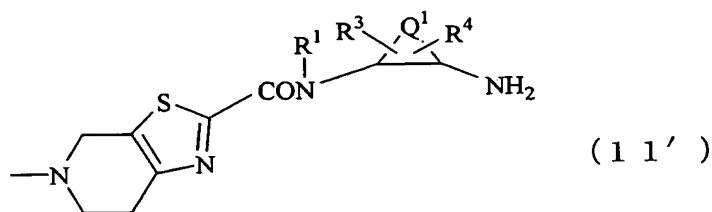
- 5 (wherein  $R^1$ ,  $R^3$ ,  $R^4$ , and  $Q^1$  have the same meanings as described above) to thereby obtain a compound of formula (14) or a salt thereof:

[F39]



- 10 (wherein  $R^1$ ,  $R^3$ ,  $R^4$ , and  $Q^1$  have the same meanings as described above), and reducing the obtained compound or a salt thereof, to thereby yield a compound of formula (11') or a salt thereof:

[F40]



15

- (wherein  $R^1$ ,  $R^3$ ,  $R^4$ , and  $Q^1$  have the same meanings as described above), and reacting the obtained compound or a salt thereof with a compound of formula (12) or a salt

thereof:

[F41]

HO-T<sup>1</sup>-Q<sup>2</sup> (1 2)

(wherein T<sup>1</sup> and Q<sup>2</sup> have the same meanings as described above).